

Abstract of the Disclosure

A method for producing the high-value ketocarotenoid astaxanthin by the green microalga *Chlorella zofingiensis* in dark-heterotrophic cultures shows excellent growth and high-yield astaxanthin production on glucose-supplemented media in the dark. The specific growth rate and astaxanthin yield can be as high as 0.031 h^{-1} and 10.3 mg l^{-1} , respectively, which are the highest so far reported in heterotrophic algal cultures. The light-independent astaxanthin-producing ability of *Chlorella zofingiensis* can be employed for commercial production of astaxanthin using industrial fermenters.